



## Economics & Strategy

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*"Over the next four years, we are likely to witness the greatest mass exodus of vehicles off America's highways in history. By 2012, there should be some 10 million fewer vehicles on American roadways than there are today ..."*

## Heading for the Exit Lane

by Jeff Rubin

Recent announcements from OPEC and China won't be sufficient to hold oil prices in check. The additional 200,000 barrels per day pledged from Saudi Arabia is a pittance compared to the four million barrels per day that depletion will hive off world production this year. What little increase in production Saudi is capable of will probably all be gobbled up by that country's own voracious appetite for energy. Nor is the \$145 per tonne cut (48 cents per gallon) in Chinese fuel subsidies likely to dent demand much. Most North Americans would gladly line up at the pumps for China's now \$3.25 a gallon gas, particularly those of us who live north of the border.

With half of the world's population never having to pay world oil prices, it shouldn't come as a great surprise that \$130 per barrel crude prices have yet to quash world demand. And the only supply response to date has been yet another round of cost overruns and lengthy project delays running the gamut from Canadian oil sands to deepwater Gulf of Mexico wells.

With the basic laws of supply and demand no longer operative in crude oil markets, we are compelled to once again raise our target prices for oil. We are lifting our target for West Texas Intermediate by \$20 per barrel to an average price of \$150 next year and by \$50 per barrel to an average price of \$200 per barrel by 2010. Under prevailing refinery margins, that should translate into a near-\$7 per gallon pump price within two years, a 70% increase from today's already record levels.

Higher oil prices spell stagflation for the US economy next year, and we have marked down our GDP growth forecast to barely over 1% for 2009 (pages 9-11). The biggest impacts will be in transport and none greater than the adjustments on the road. After all, America is the quintessential land of the car.

As gasoline prices climb inexorably, American driving habits are going to have to undergo a massive change, mimicking the driving habits long adopted by Europeans who have faced much higher gas prices. Average miles driven will likely fall by as much as 15%, while the market share of light trucks, SUVs and vans will be literally halved, reversing the trend of the last fifteen years. But the most fundamental, and unprecedented change will be in the number of vehicles on the road.

Over the next four years, we are likely to witness the greatest mass exodus of vehicles off America's highways in history. By 2012, there should be some 10 million fewer vehicles on American roadways than there are today—a decline that dwarfs all previous adjustments including those during the two OPEC oil shocks (see pages 4-8). Many of those in the exit lane will be low income Americans from households earning less than \$25,000 per year. Incredibly, over 10 million of those American households own more than one car.

Soon they won't own any.

<http://research.cibcwm.com/res/Eco/EcoResearch.html>

## MARKET CALL

- Upward revisions to our call for still-higher oil prices will add to the pressure on the Fed to calm inflation expectations by raising rates. Best bets for the first move are right after the November elections. With inflation running at a 4% clip, taking the real funds rate to zero will require a 200-bp tightening by autumn 2009, a move the Fed will be forced into even if it means leaving the economy growing at a slow crawl.
- The Canadian yield curve prices in a later start for Bank of Canada tightening, which looks appropriate given the higher starting point for yields and the lower starting point for CPI. But both inflation and rates will be headed higher as the sheltering impact on CPI from earlier huge C\$ gains begins to wane. As in the US, rate hikes will beget expectations for more to come, putting pressure further out the curve.
- The ECB seems determined to throw in a quarter-point rate hike to show its colours as an inflation fighter, a move that might temporarily lift the euro while the Fed bides its time. But overall, 2009 will be a better year for the US dollar as the Fed reduces the dollar's yield disadvantage. The Bank of Canada's more modest rate hikes wouldn't do much for the C\$ on their own, but should lift the loonie through parity when buttressed by soaring oil and gas prices and related M&A inflows.

## INTEREST & FOREIGN EXCHANGE RATES

END OF PERIOD:	2008			2009			
	25-Jun	Sep	Dec	Mar	Jun	Sept	Dec
<b>CDA</b> Overnight target rate	3.00	3.00	3.00	3.25	3.50	4.00	4.00
98-Day Treasury Bills	2.62	2.70	2.80	3.20	3.35	3.75	3.70
Chartered Bank Prime	4.75	4.75	4.75	5.00	5.25	5.75	5.75
2-Year Gov't Bond (3.75% 6/10)	3.23	3.40	3.60	3.85	3.95	4.30	4.35
10-Year Gov't Bond (4% 06/17)	3.71	3.85	3.95	4.00	4.10	4.35	4.40
30-Year Gov't Bond (5% 06/37)	4.06	4.20	4.25	4.30	4.30	4.60	4.65
<b>U.S.</b> Federal Funds Target	2.00	2.00	2.25	2.75	3.25	3.75	4.00
91-Day Treasury Bills	1.80	1.95	2.10	2.55	2.95	3.50	3.60
2-Year Gov't Note (2.875% 6/10)	2.82	2.95	3.05	3.10	3.40	3.85	4.00
10-Year Gov't Note (3.875% 05/18)	4.11	4.20	4.30	4.35	4.45	4.60	4.65
30-Year Gov't Bond (4.375% 02/38)	4.65	4.75	4.80	4.80	4.80	4.80	4.90
Canada - US T-Bill Spread	0.82	0.75	0.70	0.65	0.40	0.25	0.10
Canada - US 10-Year Bond Spread	-0.40	-0.35	-0.35	-0.35	-0.35	-0.25	-0.25
Canada Yield Curve (30-Year — 2-Year)	0.83	0.80	0.65	0.45	0.35	0.30	0.30
US Yield Curve (30-Year — 2-Year)	1.83	1.80	1.75	1.70	1.40	0.95	0.90
<b>EXCHANGE RATES</b>							
— (US¢/C\$)	99.0	100.0	103.1	105.3	101.5	102.0	101.5
— (C\$/US\$)	1.011	1.000	0.970	0.950	0.985	0.980	0.985
— (Yen/US\$)	108	105	108	102	97	96	94
— (US\$/euro)	1.57	1.59	1.56	1.50	1.49	1.49	1.50
— (US\$/pound)	1.98	1.99	1.96	1.90	1.90	1.88	1.90
— (US¢/A\$)	95.9	96.5	93.0	92.5	91.0	92.0	93.0

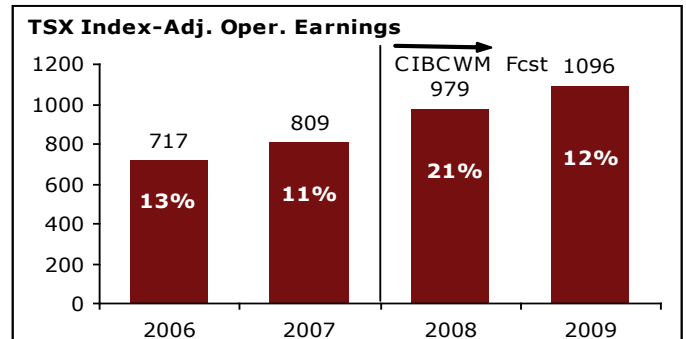
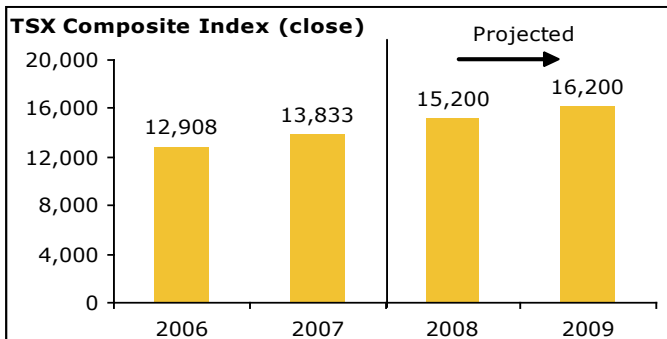
## STRATEGY AND EARNINGS OUTLOOK

- We raised our end-of-2008 target for the TSX by 700 points to a still moderately cautious 15,200 while maintaining our earlier 16,200 target for the end of 2009. In line with this, we added another 2 percentage points of weighting to our equity exposure at the expense of bonds, maintaining a 2-percentage-point cash under-exposure.
- Our 7-percentage-point overweight in energy remains the foundation of our portfolio strategy. Rising demand, principally from outside the OECD, and stagnant supply have been the main drivers of oil's recent climb. We estimate that accumulation of "paper" oil in the hands of speculators has been, at most, one-fifth of the increase in Chinese demand for actual barrels of oil over the last five years. We also maintained our materials overweight. Led by fertilizer producers, that segment has been the TSX's second best performer in 2008 after energy.
- With the Bank of Canada set to tighten by a full percentage point next year, we also further pared our exposure to rising interest rates by cutting our utility weighting. That sector is also vulnerable to higher carbon costs. Financial stocks face assorted hurdles such as the softer economy's negative effect on credit quality, leading us to remain underweight.

ASSET MIX (%)	Benchmark	Strategy Recommendation
<b>Stocks</b>	<b>53</b>	<b>57</b>
Bonds	38	36
Cash	9	7
GICS SECTOR EQUITIES (%)		
Consumer Discretionary	3.9	1.4
Consumer Staples	2.2	2.2
<b>Energy</b>	<b>31.6</b>	<b>38.6</b>
Financials	27.0	24.5
-Banks	15.2	13.2
-Insur., REITs, oth.	11.8	11.3
Healthcare	0.4	0.4
Industrials	5.4	3.4
Info Tech	5.1	5.1
<b>Materials</b>	<b>18.2</b>	<b>20.7</b>
-Gold	<b>7.1</b>	<b>8.1</b>
-Other Metals	<b>5.3</b>	<b>6.3</b>
-Chemicals	<b>5.5</b>	<b>6.0</b>
Telecom	4.8	2.3
Utilities	1.5	1.5

Note: Bold indicates recommended overweight.

TSX - Earnings Outlook & Forward PE						
	Operating Earnings (% ch)				4-qtr Fwd PE	
	2005	2006	2007	2008	Latest	Last 10 yrs.
Energy	45.4	8.5	7.9	59.4	13.4	12.0
Health Care	5.3	29.2	-38.8	6.5	14.6	22.0
Industrials	40.7	81.0	-2.5	76.9	17.8	28.9
Materials	17.9	-1.6	52.7	4.2	15.4	17.4
Utilities	2.9	-1.2	-1.5	-1.0	15.4	17.8
Consumer Staples	2.3	18.2	12.5	-1.8	15.1	15.7
Financials	13.8	17.3	11.3	-4.7	13.3	12.0
Info Tech	-40.1	47.0	154.4	64.0	27.8	44.5
Consumer Discretionary	28.1	12.8	40.2	-24.8	18.9	14.9
Telecom Services	5.9	30.8	28.4	-10.6	14.9	29.8
<b>TSX Composite</b>	<b>31.2</b>	<b>12.8</b>	<b>11.0</b>	<b>21.0</b>	<b>14.9</b>	<b>16.1</b>



Source: Thomson First Call, CIBC WM

# Getting Off the Road: Adjusting to \$7 per Gallon Gas in America

Jeff Rubin and Benjamin Tal

We stand at a turning point for US transport. Real gasoline prices have already surpassed the peak levels that followed the second OPEC oil shocks, and even when adjusted for potential fuel efficiency improvements, have increased to the point where they will dramatically change driving behaviour in America.

The some 57 million Americans who own a car and have direct access to public transportation will start to act more and more like Europeans, who have long paid much higher gasoline prices. By 2012, average miles driven will have shrunk by more than 15%. SUV and other light truck sales, which until 2006 accounted for almost 60% of total motor vehicles, will plummet to less than half that level, reversing the last fifteen years growth in market share.

More fundamentally, the freeways are about to get less congested. Not only will the number of vehicle registrations in the United States not grow over the next four years, but by 2012 there should be roughly 10 million fewer vehicles on the road in America than there are today.

For the past half century, America has spent the bulk of its infrastructure money on building highways—only to see that soon, \$7 per gallon gasoline prices will lead to fewer and fewer people using them.

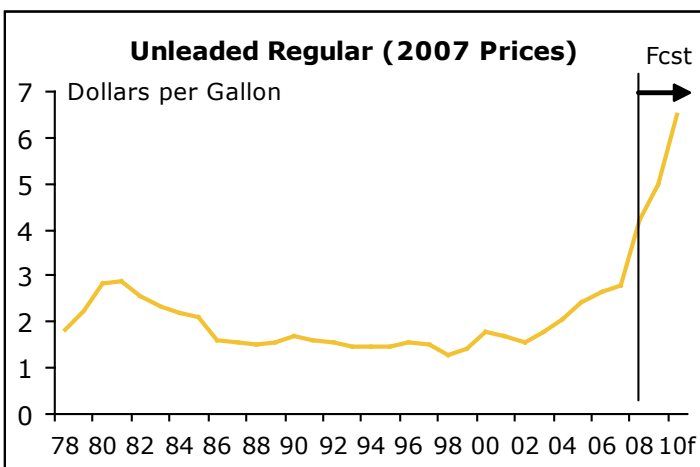
Gasoline prices in America have risen from around \$1.80 in 2004 to the current \$4 per gallon mark. The most recent surge in pump prices has, in inflation-adjusted dollars, already taken pump prices to a buck a gallon above the record prices seen in 1981 (Chart 1). And in percentage terms, the latest increase is almost twice the increase in oil prices that followed on the heels of supply disruptions after the Iranian Revolution.

Yet as daunting as these price increases have been, there is much more to come. Our updated oil price forecast of \$200 per barrel oil by 2010 points to Americans paying as much as \$7 per gallon for gasoline within the next two years.

Even the temporary 1979-1981 oil shock led to huge changes in driving behaviour. The prospect of a permanent price regime of \$200 per barrel oil should trigger changes that will dwarf the adjustment we saw nearly thirty years ago.

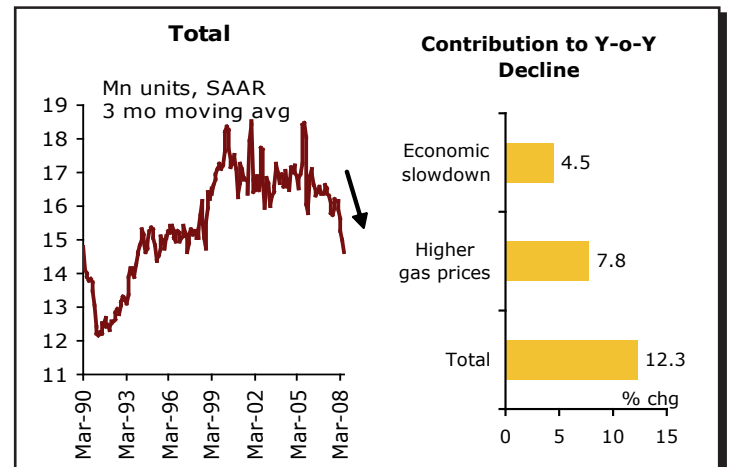
That change is already starting to happen. As gasoline prices have risen steadily since 2004, car sales have just as steadily trailed off. After averaging close to 17 million units per year over the first half of the decade, sales have already declined to 14 million, and are expected to decline further as pump prices rise to as much as \$7 per gallon. In fact, we expect vehicle sales to fall to as low as

Chart 1  
US Gasoline Prices



Source: Energy Information Administration, CIBCWM

Chart 2  
US Vehicle Sales



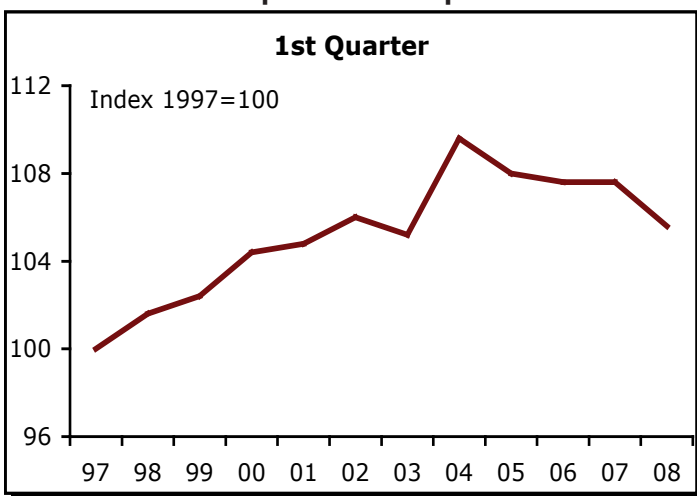
Source: Autodata, CIBCWM

11 million units by 2012, the lowest level since the early 1980s. While some of the current weakness in vehicle sales can be attributed to the economic slowdown, we estimate that higher gasoline prices have had almost twice the effect (Chart 2).

Tumbling car sales and more prudent driving habits are already starting to hit fuel demand. Overall gasoline demand in the United States has fallen sharply since the beginning of the year and is headed for the first annual drop in 17 years. Per capita consumption has fallen by close to 5% since 2004 (Chart 3), and, like vehicle sales, will continue to decline as long as gasoline prices continue to rise.

Chart 3

**Gasoline Consumption Per Capita**



Source: Consumer Federation of America, CIBCWM

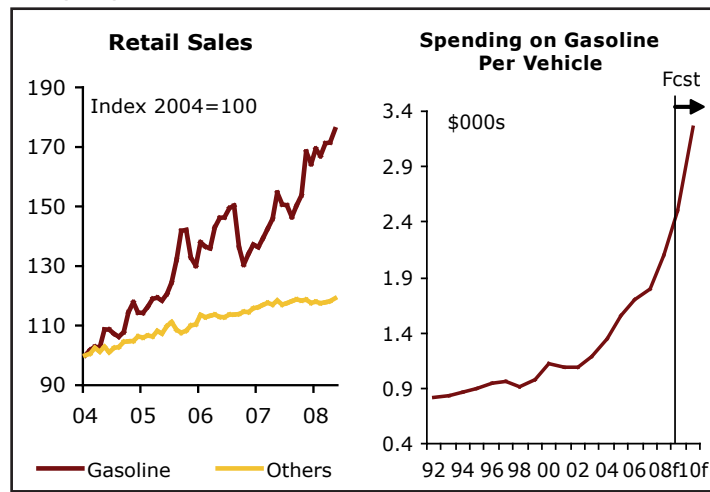
While Americans are buying less gasoline, unfortunately, the reduction in quantity is not keeping up with the increase in price. Hence, even with chastened driving habits, most Americans are spending more on filling their tanks and less on everything else. Over the last four years, gasoline sales have grown five times as much as the rest of retail sales in the United States (Chart 4)<sup>1</sup>. And at that rate, gasoline will take over grocery store spending<sup>2</sup> as the largest item in households' non-vehicle retail spending by late next year (Chart 5).

**US versus Europe**

At the soon-to-be \$6 to \$7 per gallon range for gasoline prices we can expect to see some quantum shifts in driving behaviour in America. And to see where those shifts will be going is relatively easy. All we have to do is look at

Chart 4

**Surging Gasoline Costs**



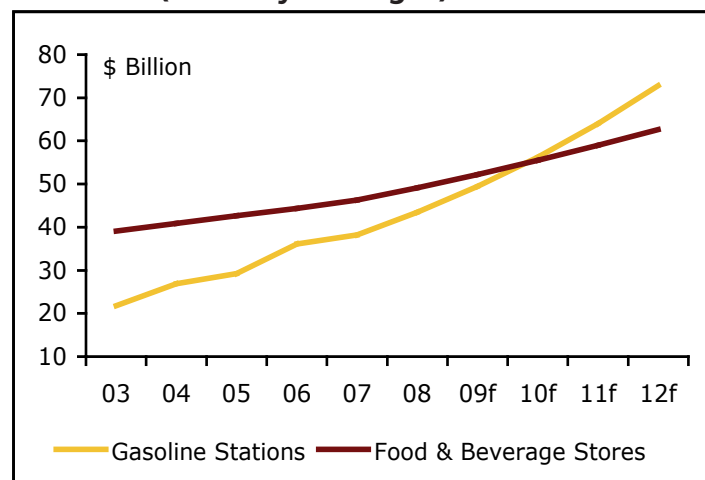
Source: US Census Bureau, Federal Highway Administration, CIBCWM

Europe, where even at today's world oil prices, drivers are already paying the equivalent of those gasoline prices or more. In fact, in many places in Europe, they are paying well above that and have been for some time.

Compare for example, driving behaviour in the United Kingdom with driving behaviour in the United States. Over 90% of American households use a car to get to work, while over 60% of US households own two cars or more (Table 1). By comparison, just 60% of British households use a car to get to work, while less than 25% own two or more cars. Moreover, Americans drive their cars more. They make four driving trips a day while Brits

Chart 5

**Gasoline Spending Will Soon Overtake Groceries (monthly averages)**



Source: US Census Bureau, CIBCWM

Table 1  
Daily Travel Characteristics

	United States	United Kingdom
Used car to get to work (%)	90.4	61.8
Total distance travelled (miles)	20.9	7.0
Number of trips	4.0	2.0
No cars in household (%)	8.0	30.6
2 cars or more in household (%)	61.9	24.7

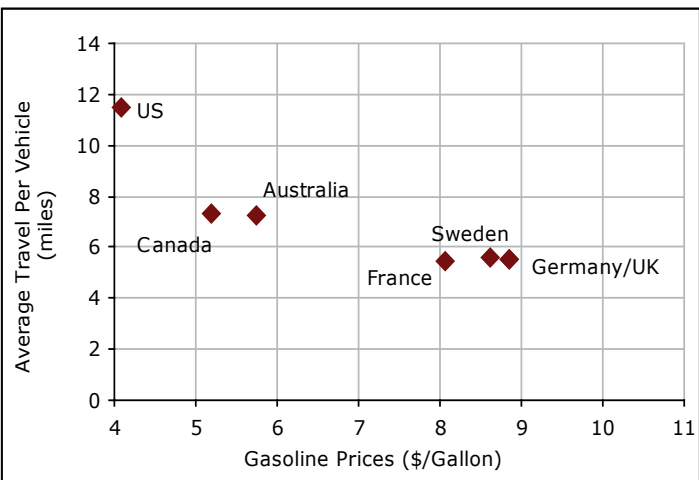
Source: Giuliano & Dargay (2005), CIBCWM

make half of that per day. And last, but by no means least, some 30% of Brits don't even have a car. In the US less than 10% of households don't own a car.

Gasoline consumption is ultimately about how many people drive, the distance they drive and the type of vehicles they drive. On all three counts American face a massive change.

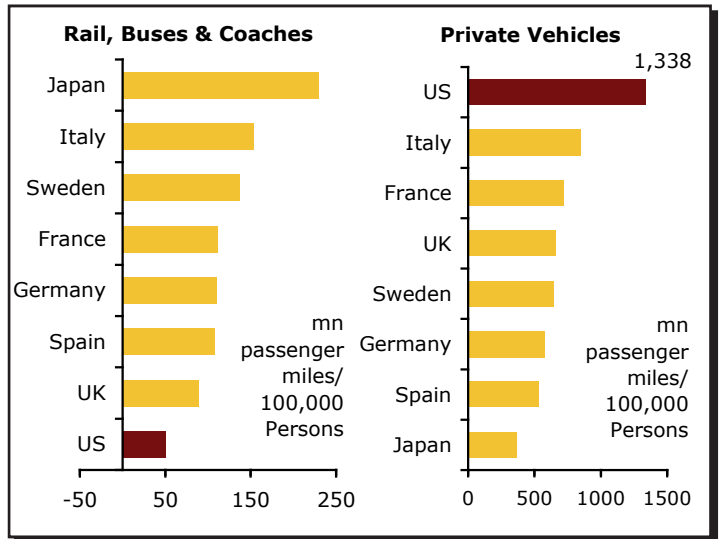
Adding the first two factors we get an index of miles driven. And per capita, Americans drive twice as much as drivers in Sweden, UK, Germany, and France, where gasoline prices are now over \$8 per gallon (Chart 6).

Chart 6  
Gas Prices and Driving—  
An International Perspective



Source: EMBARQ, CIBCWM

Chart 7  
Private Vehicles versus Public Transit



Source: OECD, US Census Bureau, CIBCWM

Of course the flip side of this equation is public transit. America's obsession with the car is mirrored in its avoidance of public transit. When it comes to taking the train, bus, or subway, the US ranks the lowest among OECD countries, just as it ranks the highest among the same group when it comes to the use of the car (Chart 7).

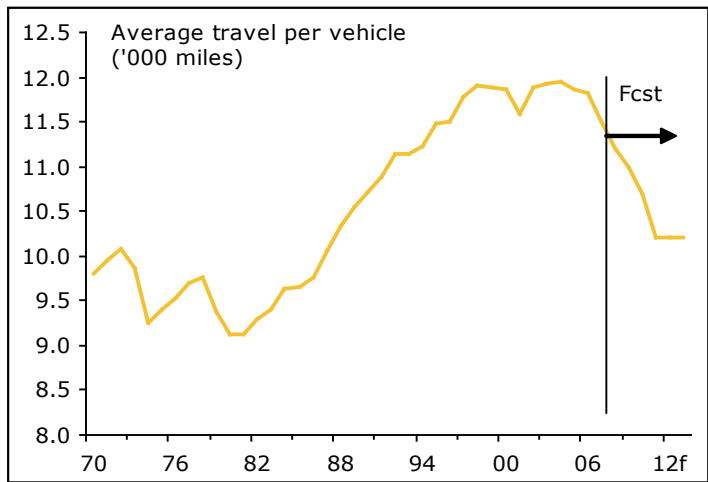
**Driving Less in Smaller Vehicles**

Higher oil prices will make drivers use their cars less. While Americans are already driving 11 billion fewer miles than they did last year, a decline of 4.3%, they still drive today about 30% more than they did before the OPEC oil shocks. The elasticity of driving to gasoline prices is estimated to be around the 0.06. That means a 10% rise in gasoline prices will eventually lead to a 0.6% reduction in miles driven. Using that rule of thumb, the 280% cumulative rise in gasoline prices between 2004 and our target \$7 per gallon target price should induce more than 15% reduction in miles driven on American roads (Chart 8). That will turn back the clock to the mid 1980s as far as average mileage driven is concerned.

Not only will Americans drive less but they will start to drive very different vehicles from the ones they are currently driving. Light trucks, which include vans and the ubiquitous SUV, accounted for as much as 60% of total vehicle sales in America back in 2006. That's almost a doubling in its market share since the early 1990s (Chart 9). But even at \$4 per gallon gasoline, SUV sales are plunging. At \$7 per gallon pump prices, their share of total vehicle sales, along with other light trucks, will

Chart 8

**Americans Will Soon Drive Less**



Source: Federal Highway Administration, CIBCWM

have even fallen below levels seen over fifteen years ago. While there will still be households who will buy these vehicles, all of the gains in market share seen over the last decade will have been fully reversed.

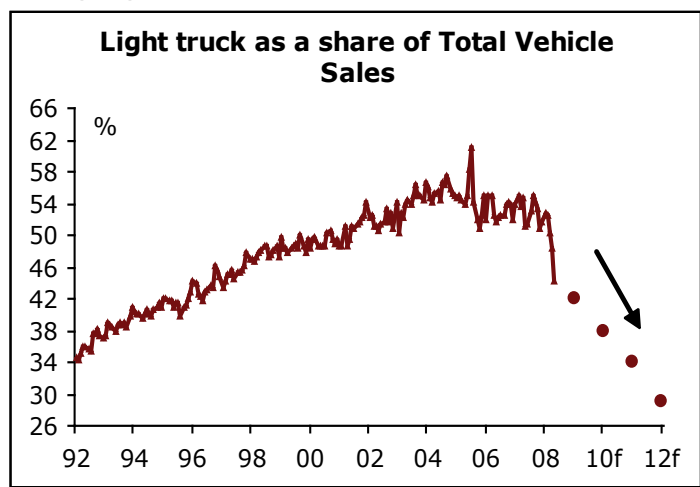
**Getting Off the Road**

In part, Americans will respond to record high gasoline prices by driving less and by driving more fuel efficient vehicles. But the most dramatic result will be that roughly ten million vehicles will come right off the road.

As with oil, there is a depletion rate in autos. It's called the scrappage rate, and it refers to the percentage of existing vehicles that every year are retired from service.

Chart 9

**Plunging SUV Sales**



Source: Autodata Corporation, CIBCWM

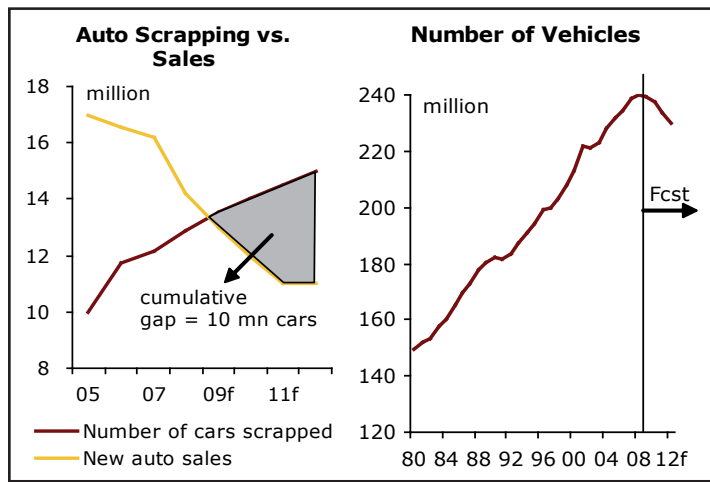
Last year the scrappage rate was 5.2%<sup>3</sup>, resulting in some 12 million vehicles coming off the road. That means new vehicle sales had to rise by 12 million units just to keep the stock of passenger vehicles unchanged. We know from history that the scrappage rate rises with surges in oil prices, because older cars typically average much poorer fuel economy than newer cars and thus become increasingly expensive to run as pump prices rise. At \$7 per gallon gasoline we have assumed that the scrap rate rises modestly to 6%.

A 6% scrappage rate would take roughly 14 million vehicles off the road every year. For the number of vehicle registrations to remain constant in the face of that decline, there would have to be an offsetting number of new vehicle sales that year. But given their link to fuel prices, new vehicle sales will be at least three million below that number by 2012. Our projected 11 mn vehicle sales in 2012 will be the lowest level since the early 1980s. Summing up the cumulative difference between new sales and scrappage over that period suggests that somewhere in the neighbourhood of ten million Americans will be coming off the road over the next 4½ years (Chart 10).

Is this a realistic estimate? While \$7 per gallon gasoline prices certainly took people off the road in Europe, you cannot simply impose Europe on America. Most Europeans have access to public transport by virtue of the broad infrastructure policies European countries have pursued. In marked contrast, America built massive highways and freeways for a population that owned and used their own cars to get around.

Chart 10

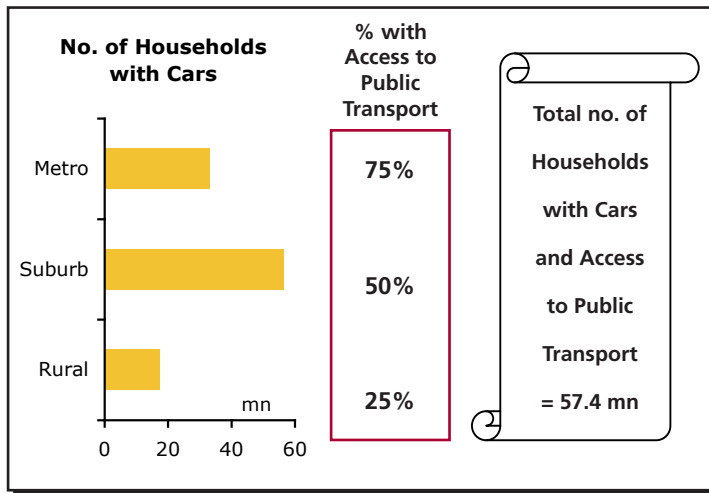
**Number of Vehicles To Fall by 10 Million by 2012**



Source: R.L. Polk Co., Federal Highway Administration, CIBCWM

Chart 11

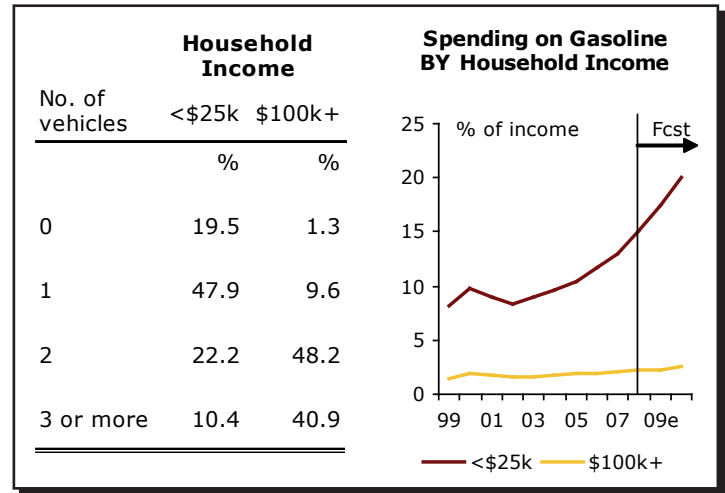
Access To Public Transportation



Source: US Census Bureau, METTRANS, Bureau of Transportation Statistics, CIBCWM

Chart 12

Car Ownership and Spending By Income



Source: Consumer Federation of America, BTS, CIBCWM

Hence we must narrow our focus on those Americans where a European style shift in driving habits is currently feasible. People can't simply abandon their cars if they have no other means of getting around, particularly in terms of getting work. There must be at least a public transport alternative.

As it turns out, roughly 57 million American households that own a vehicle have reasonable access to public transit<sup>4</sup>, slightly more than half of the number of households who own a vehicle (Chart 11)<sup>5</sup>. And applying the 80% vehicle ownership rate seen in Europe to this target group suggests a 10 million reduction in the number of registered vehicles in the US.

Where will this decline come from? The focus is on those who can least afford to operate a car when gasoline costs \$7 per gallon. No less than 80% of low income Americans (or roughly 24 million households) with less than \$25,000 annual income own a car. With gasoline bills surging to record highs, they will be the first to come off the road.

One in five of those low income Americans, or roughly five million households, will probably stop driving or give up the second vehicle<sup>6</sup>. And a good part of the previously noted increase in the scrappage rate is likely to come from this group, particularly the 30% of households under \$25,000 annual income who own a second car, which is likely a gas-guzzling near-wreck. The vast majority of

these individuals will live in the city as opposed to the suburbs, given their much greater access to public transit (Chart 12)<sup>7</sup>.

Our analysis suggests that about half of the number of cars coming off the road in the next four years will be from low income households who have access to public transit. At their current driving habits, filling up the tank will have risen from about 7% of their income to 20%, an increase that will see many start taking the bus.

Note:

1. The AAA 2007 edition of "Your Driving Cost" concluded that the cost of owning a car has reached a record high in 2007. Given that this estimate was based on a cost of only \$2.94 per gallon, the current figure is most likely higher.
2. Food and beverage stores only.
3. Source: R. L. Polk & Co. "The Vehicle Population Report 2007". Note that the median age of a passenger car is currently 9 years—tying a record high in 2006.
4. Usually a reasonable access is defined as less than half a mile distance from a bus or train station.
5. Based on statistics obtained from the US Census Bureau, METTRANS and Bureau of Transportation Statistics.
6. These estimates are consistent with survey-based findings published by METTRANS regarding the role of public transportation in the mobility of low income households.
7. Based on US Census Bureau. Also see The Center on Urban and Metropolitan Policy discussion regarding "The State of Low-Wage Workers".



# Oil and Growth: That 70s Show Re-Run

Avery Shenfeld and Meny Grauman

It's hard to be sanguine about America's economic outlook in the face of ever increasing fuel costs. After all, nine out of the last 10 US recessions have been accompanied by sharp spikes in the price of crude oil. True, the economy did manage to weather the storm of rising oil prices from 2001 to 2005, a period in which the price of petroleum shot up by roughly 180% even as the US economy grew by close to 3% a year. Some saw this as a sign of a lasting breakdown in oil's threat to growth, citing the more efficient use of energy resources, deeper financial markets, and more flexible labor agreements.

But the more recent oil upturn, in which crude prices have climbed by over 130% since the beginning of 2007, looks to be taking a visible bite out of growth (Chart 1). And a more careful analysis of the past relationship between oil and growth suggests that there were good reasons for the economy's initial resilience, and that most of the economic shock lies ahead, putting the US economy on track for a case of stagflation in 2009 even as the housing shock peters out.

## Redefining an Oil Shock

Oil prices and economic growth are not part of a simple one-way causal relationship. As was true of the large oil spikes of the 1970s and early 1980s, the timing and

magnitude of the shock to growth is affected by the state of the economy at the time it hits, the monetary policy response, the pace of oil's climb, and as noted by energy economist James Hamilton, the degree to which prices begin to eclipse peak levels over the prior three years.

Hamilton showed that increases in oil prices that simply reverse previous declines do not have the same economic impact as identical price gains from already elevated levels. By this standard, some very large spikes in oil prices over the last 50 years do not really qualify as oil shocks at all (Chart 2), being simply rebounds from temporary crude price dips that had yet to filter their way into the economy at large. For example, although oil prices shot up more than 25% in the first quarter of 1989, they were still below their previous three-year high.

Similarly, the economic hit during oil's rise in the first half of 2007 was minimized as crude's climb from the near \$50/bbl level simply reversed its earlier dip. Instead, Hamilton's model suggests that given the typical response lags, the greater impact on growth lies ahead in 2009. These lags capture not only the spreading impact of the initial shock to other sectors as higher oil costs affect job creation in the most sensitive sectors, but also the impact of the subsequent interest rate hikes as the central bank responds to the inflation threat by raising interest rates.

Chart 1  
Oil Prices Help Slow US Real GDP Growth

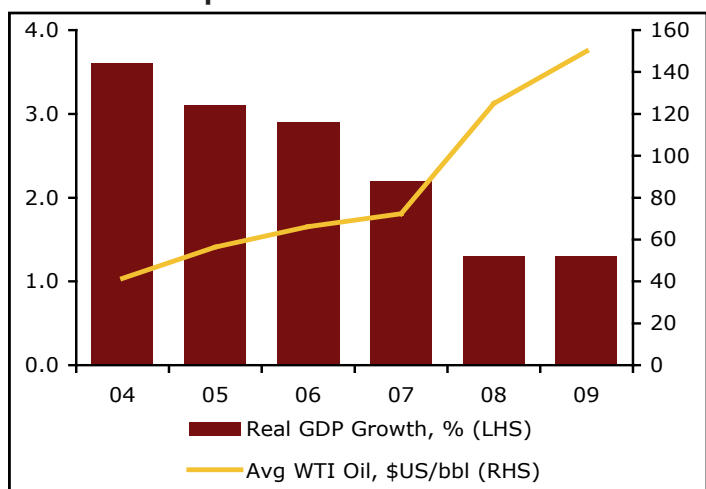
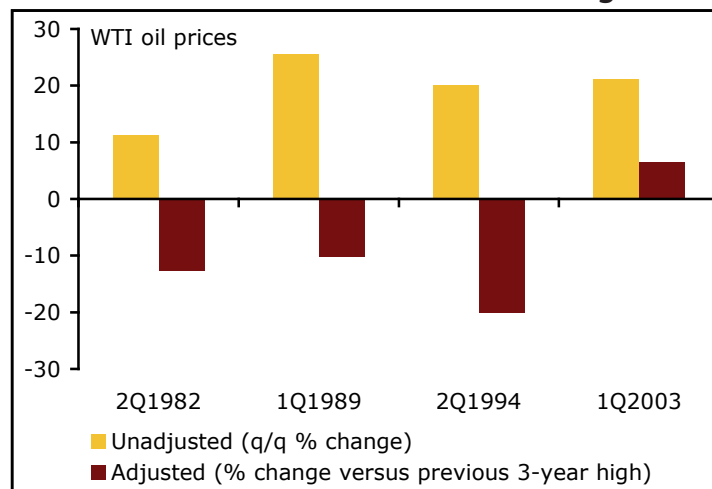


Chart 2  
Some Oil Price Gains Didn't Set New Highs



As a result, applying that model shows that after a minimal shock to 2008 growth, our forecast for a further climb to an average \$150/bbl next year will pare 2009 real GDP growth by 2.0-2.5% points, relative to a base case of flat oil prices and a resulting more moderate course for interest rates. That will turn what might have been a brisk 3%+ recovery from this year's housing-related troubles into an anemic expansion.

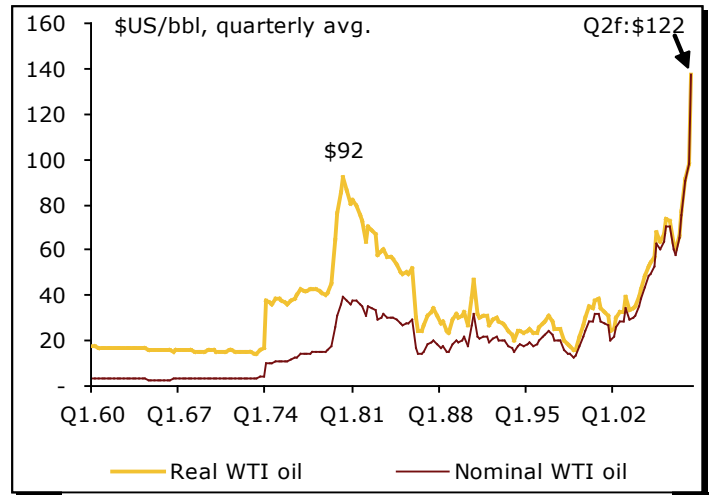
It's not that this has been the steepest shock to crude oil on record. Indeed, measured against a rolling three-year high, so far this year oil prices have not climbed at anywhere near the speed that they did during the early 1970s (Chart 3). But past shocks were often short-lived, as they related to temporary disruptions in supply, including those engineered by OPEC. This more fundamentally driven oil upsurge should prove to be much more persistent than at any other time in history as both real and nominal oil prices continue to break all time records (Chart 4). The longest running continuous oil spike in US history lasted seven quarters, while we expect oil prices, at least on a trend basis, to be headed higher right through 2012.

**Behind the Math**

While the model's forecast of a 2-2.5%-point growth shock simply reflects past sensitivities, on the ground realities also are consistent with sluggish growth ahead for 2009. Note that this year, consumer spending is being temporarily propped up by billions in tax rebates. But don't expect that one-off measure to have a lasting impact on growth, in part because it's being cannibalized by rising gasoline prices. Already this year, nearly half of

Chart 4

**Oil Price Sets Record in Real Terms (2008 \$s)**



the \$150 bn in planned direct consumer stimulus will have gone to pay for higher costs for fuel, rather than increases in overall spending volumes (Chart 5).

Moreover, one of the earlier arguments for why oil might matter less these days is rapidly disappearing. Until recently, it was commonplace to dismiss the oil shock by pointing to the fact that the US economy, with its shift into services, had become significantly less energy intensive than it was in the 1970s, when oil shocks did so much damage. But although US crude oil expenditures made up only 4% of GDP last year, this share will grow to 9.5% over the next three years as crude prices hit an average of \$200/bbl in 2010 (Chart 6). In terms of oil's share of spending, we're right back where we started from.

Chart 3

**A Longer Run of New Highs in Oil this Time**

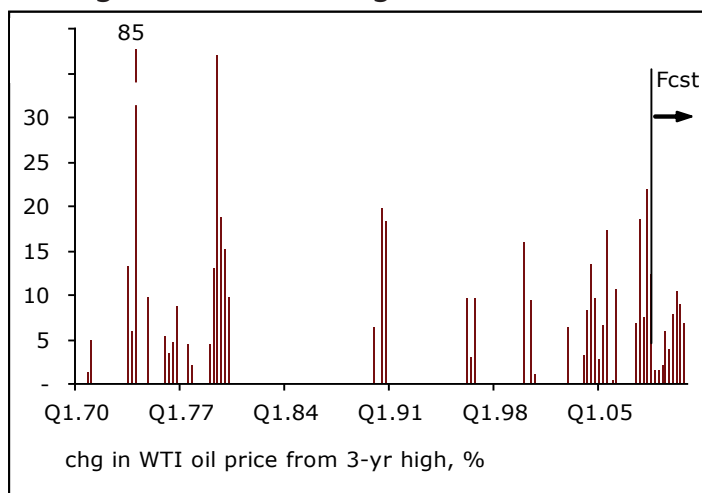


Chart 5

**Gasoline Spending Takes Half of Stimulus Funds**

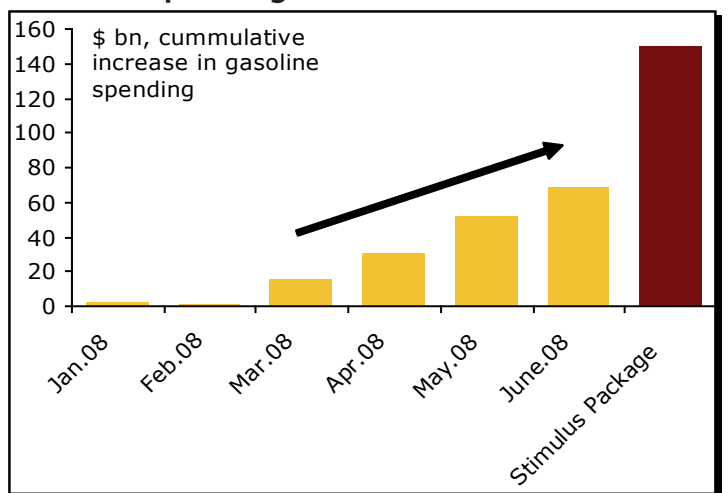
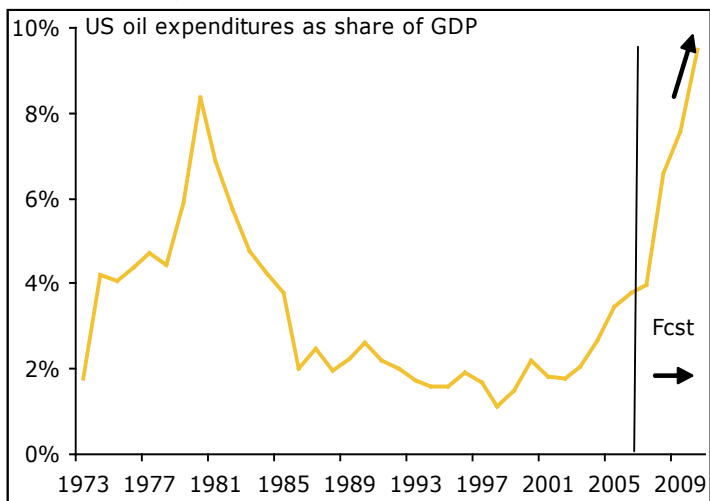


Chart 6

### Oil Intensity is On the Rise



Indeed, it's not just how much oil drains initially from consumer or business finances or reduces energy use, but the adjustment costs to the economy from the resulting sharp changes in behavior. That's already being seen as hundreds of thousands of auto-related jobs disappear with the meltdown in light truck sales, long before the economy can replace them with activity in producing more energy-efficient transportation alternatives. The oil shock will similarly have ripple effects on airlines, tourism and other sectors.

Another 'this time will be different' argument notes that the 1970s oil shocks were caused by supply disruptions that hurt global growth, while the present crude oil run-up was initially driven by healthy global growth that is in itself a benefit to the US economy. To date, that has for the most part been the case, and has been reflected in a bull market for US exports.

But in addition to rapid economic growth in the developing world, recent crude prices also capture an outright decline in crude oil supply from 2005 to 2007, and much more limited medium term supply growth prospects than were available in earlier decades (see *Occasional Report #65*). Supply disruptions in Nigeria and declining Russian production will easily outweigh what Saudi Arabia plans to add in the near term. Moreover, while we expect growth to hold up well in the developing world, the oil shock will, with similar lags, take a bite out of activity in US trading partners in Europe.

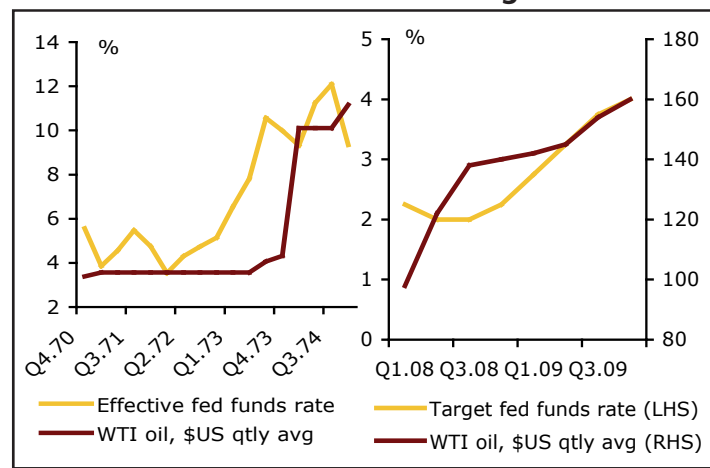
### Oil Takes Housing's Place

But the most important reason for thinking that the major hit to growth lies ahead rests on the response in monetary policy. As a number of prominent economists, including Ben Bernanke himself, have pointed out, the impact of some of the biggest oil shocks were exacerbated by aggressive Fed tightening. The 1973-74 oil shock, in particular, was made worse by the Fed's decision to belatedly raise the fed funds rate by 830 bps over the span of less than three years (Chart 7, left). The last 30 years largely coincided with stable inflation expectations, which meant that central bankers could avoid aggressively raising rates in the face of climbing energy prices. Unfortunately, for the first time since the early 1980s, that appears to be changing, as consumer inflation continues to heat up and the Fed comes under increasing pressure to act.

At a minimum, once the worst of the housing shock passes, the Fed will be forced to raise real interest rates back to zero in order to prevent an improving economy from allowing wages and other prices to catch up to oil. With CPI trending at an energy- and food-driven 4%, that will entail 200 basis points in tightening to get to a 4% funds rate by the end of next year. As a result of our upward revised call for both oil and interest rates, we've chopped our US growth forecast for 2009 from just over 2% as of two months ago, to little over 1%, no better than this year's housing-blunted performance. The US economy has managed to avoid feeling the full brunt of oil prices over the last few years, but 2009 will be the year that its luck runs out (Chart 7, right).

Chart 7

### Oil Shocks Push Interest Rates Higher



**ECONOMIC UPDATE**

<b>CANADA</b>	<b>08Q1A</b>	<b>08Q2F</b>	<b>08Q3F</b>	<b>08Q4F</b>	<b>2007</b>	<b>2008F</b>	<b>2009F</b>
Real GDP Growth (AR)	-0.3	0.7	1.2	3.0	2.7	1.1	1.9
Real Final Domestic Demand (AR)	2.3	2.7	2.8	3.0	4.2	3.7	3.0
All Items CPI Inflation (Y/Y)	1.8	2.2	3.0	3.5	2.1	2.6	3.3
Core CPI Ex Indirect Taxes (Y/Y)	1.4	1.5	1.6	2.3	2.1	1.7	2.1
Unemployment Rate (%)	5.9	6.2	6.4	6.3	6.0	6.2	6.3
Merchandise Trade Balance (C\$ Bn)	52.8	53.8	35.1	34.7	48.8	44.1	40.9
<b>U.S.</b>							
Real GDP Growth (AR)	0.9	-0.2	-0.4	2.9	2.2	1.3	1.3
Real Final Sales (AR)	0.7	-1.0	-0.5	2.2	2.5	1.2	1.3
All Items CPI Inflation (Y/Y)	4.1	4.1	4.7	4.8	2.9	4.4	4.1
Core CPI Inflation (Y/Y)	2.4	2.3	2.2	2.3	2.3	2.3	2.8
Unemployment Rate (%)	4.9	5.3	5.5	5.6	4.6	5.3	5.3

**CANADA**

An earlier projected start to North American rate hikes has us trimming our Canadian real growth outlook for 2009, with somewhat less growth coming from real exports (although nominal exports will remain healthy) and interest sensitive business and residential investment. Inflation has moved onto the sharply climbing track that we have been anticipating for several months, and we added a bit to the headline rate for 2009 in line with an upgraded oil price call.

**UNITED STATES**

We've raised our economic growth forecast for the remainder of the year to reflect a more resilient US consumer, and to capture the positive impact of \$150 bn in federal economic stimulus. Looking to next year though, we have taken down our real GDP forecast by roughly 1%-pt as a result of our higher outlook for oil prices and a more hawkish Fed. As in Canada, our inflation forecast has been edged higher on the back of an upward revision to our forecast climb in energy prices.

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